

29747 - Industrial Production

Syllabus Information

Academic year: 2023/24

Subject: 29747 - Industrial Production

Faculty / School: 110 - Escuela de Ingeniería y Arquitectura

Degree: 434 - Bachelor's Degree in Mechanical Engineering

ECTS: 6.0

Year: 4

Semester: First semester

Subject type: Optional

Module:

1. General information

In the development of the activity of producing goods and/or services, companies must develop different functions for the proper management of production, from raw materials to the finished product, as well as the maintenance of the industrial facility. In a current conception of this management, it is necessary to include warehouses, since a large part of the industrial activity is based on the movement of products. The purpose of this subject is to introduce the students to the production environment, to know the elements that are part of it and to be able to provide adequate solutions for production planning and management.

These approaches and objectives are aligned with the Sustainable Development Goals (SDGs) of the 2030 Agenda of United Nations (<https://www.un.org/sustainabledevelopment/es/>), in such a way that the acquisition of the subject's learning results provides training and competence to contribute to some extent to the achievement of targets 8.2 and 8.4 of Goal 8, and target 9.2 of Goal 9.

2. Learning results

- Know the production management systems.
- Recognize the elements and distinguish different logistic strategies in production.
- Establish a maintenance, safety and occupational risk plan in a company.
- Model different processes and evaluate different scenarios by simulating their behavior on computer.

3. Syllabus

Unit 1. The problem of planning in the productive environment.

Unit 2. Aggregate Planning and Master Production Plan.

Unit 3. Material requirements planning study.

Unit 4. Warehouse management.

Unit 5. Integral industrial maintenance.

Unit 6. Study of modeling and simulation techniques for production and logistics systems.

Unit 7. Study of enterprise resource planning systems.

4. Academic activities

Participatory lectures 34h

The contents of the subject will be presented with a practical and participative orientation.

Problem solving and case studies: 6 hours

Problems of modeling and evaluation of production and logistics systems through simulation will be addressed.

Computerized Practices (3B): 18 hours

Calculation and simulation tools will be used to develop the Master Production Plan, plan materials, and manage warehouses and maintenance.

Special practices in installations: 2 hours

A visit will be made to a local company where it will be explained in a practical way how production management is carried out and the elements to be taken into account.

Teaching and other activities: 12 hours

It includes both the evaluable teaching assignments and the preparation of laboratory practice reports.

Personal study: 75 hours

Assessment tests. 3 hours

5. Assessment system

The subject will be evaluated in continuous and global mode, but it is recommended to follow the subject and, for this, a gradual assessment system is offered. Thus, during the duration of the subject, the student will have the possibility to demonstrate that they have achieved some of the required theoretical-practical learning results

Continuous assessment

The monitoring of the subject is recommended and in this sense a gradual assessment system is offered: the student will be able to demonstrate that they have achieved some learning results of a theoretical-practical type required during the term. The tests of the gradual evaluation release subject matter in any of the two official call.

Block 1:

This block consists of 3 written tests consisting of solving theoretical-practical questions and problems related to the subject taught. A minimum grade of 4/10 must be obtained in each of them in order to be averaged. These tests will be carried out during the term, with the date of the test being set at the beginning of the term.

Block 1.1. Control over Production Management: it represents 25% of the final grade.

Block 1.2. Control over Warehouse Management: accounts for 15% of the grade.

Block 1.3. Control on Maintenance Management: it represents 10% of the grade.

Block 2:

In order to evaluate the practical contents of the course, students are expected to prepare a set of assignments, associated to the problem and practical sessions, in which they will solve the cases presented in based on the tools learned. The criteria for evaluating these papers will be: adequate content, good approach, drawing interesting conclusions and good presentation.

Failure to submit reports on time and/or obtaining grades lower than 4/10 in any report or questionnaire will result in a negative evaluation of the test. This block accounts for 50% of the final grade.

The grade obtained from the weighted average of the tests must be equal to or higher than 5.0 to pass the subject. The results obtained in the tests passed will be maintained until the end of the academic year.

Global assessment:

In case of not passing any of the blocks of the gradual assessment, the student may take the global assessment to which they are entitled, in any of the two calls, which will consist of an exam that includes both blocks of the gradual assessment, with the same scheme of distribution of points and minimum grades. This exam will take place on the dates indicated in the exam calendar prepared by the center.